

Exhibit A.6: Trends in Student Populations

Assessed Fourth Grade Students at the End of the School Year

☒ Assessed one year later than originally scheduled – six year trend from PIRLS 2016

■ Delayed Assessment of Fourth Grade Cohort at the Beginning of Fifth Grade

Country	Years of Formal Schooling*	Average Age at Time of Testing	Overall Exclusion Rates	Overall Participation Rates (After Replacement)
Australia ☒				
2021	4	10.0	4.4%	90%
2016	4	10.0	4.8%	94%
2011	4	10.0	4.4%	93%
Austria				
2021	4	10.3	4.8%	96%
² 2016	4	10.3	5.6%	98%
2011	4	10.3	5.1%	98%
2006	4	10.3	5.1%	97%
Azerbaijan				
2021	4	10.1	2.5%	84%
2016	4	10.1	2.1%	96%
² 2011	4	10.2	7.2%	100%
Bahrain				
2021	4	10.3	1.0%	91%
2016	4	9.9	2.7%	98%
Belgium (Flemish)				
2021	4	10.0	2.9%	81%
2016	4	10.1	1.6%	92%
^{2†} 2006	4	10.0	7.1%	91%
Belgium (French)				
² 2021	4	10.0	7.4%	95%
² 2016	4	10.0	6.0%	97%
^{2†} 2011	4	10.1	5.6%	82%
2006	4	9.9	3.9%	95%
Bulgaria				
2021	4	10.7	3.4%	92%
2016	4	10.8	4.3%	95%
2011	4	10.7	2.5%	95%
² 2006	4	10.9	6.4%	94%
2001	4	10.9	2.7%	93%
Chinese Taipei				
2021	4	10.1	1.1%	98%
2016	4	10.1	0.9%	98%
2011	4	10.2	1.4%	99%
2006	4	10.1	2.9%	99%
Croatia				
[†] 2021	4	11.2	4.4%	77%
² 2011	4	10.7	7.9%	95%
Cyprus				
2021	4	9.8	5.5%	94%
2001	4	9.7	2.0%	97%
Czech Republic				
2021	4	10.4	5.5%	91%
2016	4	10.3	3.4%	95%
2011	4	10.4	5.1%	94%
2001	4	10.5	5.0%	90%
Denmark				
^{2†} 2021	4	10.9	9.1%	85%
² 2016	4	10.8	9.8%	90%
² 2011	4	10.9	7.3%	95%
² 2006	4	10.9	6.2%	96%
Egypt				
^{2ψ} 2021	4	10.0	8.0%	94%
⁺ 2016	4	10.0	1.2%	97%
England ☒				
2021	5	10.3	5.4%	88%
2016	5	10.3	3.7%	96%
[†] 2011	5	10.3	2.4%	82%
2006	5	10.3	2.4%	92%
^{2†} 2001	5	10.2	5.7%	82%
Finland				
2021	4	10.8	2.3%	97%
2016	4	10.8	2.4%	96%
2011	4	10.8	3.1%	95%
France				
2021	4	9.9	5.0%	91%
2016	4	9.8	5.4%	96%
2011	4	10.0	5.2%	97%
2006	4	10.0	3.8%	95%
2001	4	10.1	5.3%	94%

* Represents years of schooling counting from the first year of ISCED Level 1.

Trend data are included only for assessment years reported in PIRLS 2021.

ψ Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 15% but does not exceed 25%. See Exhibit A.2 for population coverage notes 1, 2, and 3. See Exhibit A.5 for sampling guidelines and sampling participation notes †, ‡, and ≡.

+ Participated in Literacy version of PIRLS 2016.

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■ Delayed Assessment of Fourth Grade Cohort at the Beginning of Fifth Grade

(Continued)

Country	Years of Formal Schooling*	Average Age at Time of Testing	Overall Exclusion Rates	Overall Participation Rates (After Replacement)
Georgia				
¹ 2021	4	10.6	2.7%	91%
¹ 2016	4	9.7	3.8%	96%
¹ 2011	4	10.0	4.9%	96%
^{1,2} 2006	4	10.1	7.3%	98%
Germany				
2021	4	10.4	4.0%	85%
2016	4	10.3	4.2%	95%
2011	4	10.4	1.9%	95%
2006	4	10.5	0.7%	92%
2001	4	10.5	1.8%	86%
Hong Kong SAR				
^{2†} 2021	4	10.1	7.7%	87%
^{2†} 2016	4	9.9	10.1%	79%
³ 2011	4	10.1	11.8%	83%
2006	4	10.0	3.9%	97%
2001	4	10.2	2.8%	97%
Hungary				
2021	4	11.2	4.9%	91%
2016	4	10.6	4.5%	97%
2011	4	10.7	4.2%	96%
2006	4	10.7	3.7%	97%
2001	4	10.7	2.1%	95%
Iran, Islamic Rep. of ☒				
2021	4	10.2	1.8%	97%
[±] 2016	4	10.2	4.1%	99%
2011	4	10.2	4.5%	99%
2006	4	10.2	3.8%	99%
2001	4	10.4	0.5%	98%
Ireland				
2021	4	11.0	3.6%	94%
2016	4	10.5	3.1%	96%
2011	4	10.3	2.5%	95%
Israel ☒				
³ 2021	4	10.0	25.7%	88%
³ 2016	4	10.0	24.9%	94%
³ 2011	4	10.1	24.6%	93%
Italy				
² 2021	4	9.8	5.7%	92%
2016	4	9.7	4.9%	95%
2011	4	9.7	3.7%	95%
2006	4	9.7	5.3%	97%
2001	4	9.8	2.9%	98%
Kazakhstan				
2021	4	10.8	3.9%	97%
2016	4	10.3	4.9%	99%
Latvia				
2021	4	11.3	4.8%	90%
² 2016	4	10.9	7.8%	91%
2006	4	11.0	4.7%	92%
2001	4	11.0	4.6%	89%
Lithuania				
2021	4	11.3	4.5%	82%
2016	4	10.8	4.2%	95%
^{1,2} 2011	4	10.7	5.6%	94%
¹ 2006	4	10.7	5.1%	92%
¹ 2001	4	10.9	3.8%	83%
Macao SAR				
2021	4	9.9	3.5%	91%
2016	4	10.0	3.6%	98%
Morocco				
2021	4	10.5	1.6%	96%
[±] 2016	4	10.2	1.7%	99%
[✱] 2011	4	10.5	2.0%	95%
Netherlands				
[≡] 2021	4	10.1	5.1%	75%
[†] 2016	4	10.1	3.1%	86%
[†] 2011	4	10.2	3.7%	89%
[†] 2006	4	10.3	3.6%	90%
[†] 2001	4	10.3	3.7%	87%

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Georgia assessed students taught in Georgian and in Azerbaijani in PIRLS 2016.

± Participated in both regular and Literacy versions of PIRLS 2016.

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■ Delayed Assessment of Fourth Grade Cohort at the Beginning of Fifth Grade

(Continued)

Country	Years of Formal Schooling*	Average Age at Time of Testing	Overall Exclusion Rates	Overall Participation Rates (After Replacement)
New Zealand				
[†] 2021	4.5 - 5.5	10.0	3.5%	83%
2016	4.5 - 5.5	10.1	3.7%	92%
2011	4.5 - 5.5	10.1	3.3%	93%
2006	4.5 - 5.5	10.0	5.3%	95%
2001	4.5 - 5.5	10.1	3.2%	96%
North Macedonia				
2021	4	9.9	5.3%	85%
2006	4	10.6	4.9%	96%
2001	4	10.7	4.2%	94%
Northern Ireland				
^{2†} 2021	4	10.8	5.5%	81%
2016	4	10.4	3.0%	84%
[†] 2011	4	10.4	3.5%	79%
Norway (5)				
2021	5	10.8	4.2%	94%
2016	5	10.8	5.3%	95%
Norway (4)				
2016	4	9.8	5.1%	95%
[‡] 2011	4	9.7	4.2%	71%
[‡] 2006	4	9.8	3.8%	71%
2001	4	10.0	2.8%	82%
Oman				
2021	4	9.8	3.6%	86%
2016	4	9.7	0.6%	98%
^ψ 2011	4	9.9	1.5%	96%
Poland				
2021	4	10.9	4.8%	87%
2016	4	10.7	3.9%	90%
Portugal				
² 2021	4	10.1	6.4%	96%
² 2016	4	9.8	7.5%	93%
2011	4	10.0	2.5%	93%
Qatar				
2021	4	10.1	3.1%	88%
2016	4	10.0	3.9%	97%
² 2011	4	10.0	6.2%	99%
Russian Federation				
2021	4	10.8	5.4%	97%
2016	4	10.8	4.1%	98%
2011	4	10.8	5.3%	98%
² 2006	4	10.8	5.9%	97%
² 2001	3 or 4	10.3	6.6%	97%
Saudi Arabia				
³ 2021	4	10.4	10.8%	93%
2016	4	9.9	2.3%	96%
2011	4	10.0	1.6%	98%
Singapore				
³ 2021	4	10.4	14.5%	97%
³ 2016	4	10.4	11.1%	97%
² 2011	4	10.4	6.3%	96%
2006	4	10.4	0.9%	95%
2001	4	10.1	0.1%	98%
Slovak Republic				
[†] 2021	4	10.5	2.4%	87%
2016	4	10.4	4.8%	97%
2011	4	10.4	4.6%	96%
2006	4	10.4	3.6%	94%
2001	4	10.3	2.0%	96%
Slovenia				
2021	4	10.0	2.8%	92%
2016	4	9.9	2.4%	90%
2011	4	9.9	2.6%	94%
2006	3 or 4	9.9	0.8%	93%
2001	3	9.8	0.3%	94%
South Africa ☒				
[✱] 2021	4	10.2	1.7%	84%
⁺ 2016	4	10.6	2.5%	94%

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^ψ Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 15% but does not exceed 25%.

[✱] Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 25%.

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⁺ Participated in Literacy version of PIRLS 2016.

Singapore's increased exclusions in 2016 resulted from increased enrollment in private schools, which predominantly serve international students and are different from public schools in many respects (e.g., different language of instruction and calendar year).

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(Continued)

Country	Years of Formal Schooling*	Average Age at Time of Testing	Overall Exclusion Rates	Overall Participation Rates (After Replacement)
Spain				
2021	4	9.9	4.6%	92%
2016	4	9.9	4.8%	97%
2011	4	9.8	5.4%	96%
2006	4	9.9	5.3%	97%
Sweden				
² 2021	4	10.7	5.5%	90%
2016	4	10.7	5.2%	95%
2011	4	10.7	4.1%	91%
2006	4	10.9	3.9%	96%
2001	4	10.8	5.0%	92%
Türkiye				
² 2021	4	9.9	8.9%	90%
2001	4	10.2	3.9%	97%
United Arab Emirates				
2021	4	10.4	4.1%	90%
2016	4	9.8	3.3%	95%
2011	4	9.8	3.3%	97%
United States				
² ≡ 2021	4	10.7	5.8%	64%
† 2016	4	10.1	4.8%	86%
² 2011	4	10.2	7.2%	81%
² † 2006	4	10.1	5.9%	82%
† 2001	4	10.2	5.3%	83%
Benchmarking Participants				
Alberta, Canada				
³ ≡ 2021	4	9.9	10.6%	57%
² 2011	4	9.9	6.8%	94%
² 2006	4	9.9	7.1%	96%
British Columbia, Canada				
² 2021	4	9.8	6.7%	88%
² 2006	4	9.8	7.6%	94%
Quebec, Canada				
≡ 2021	4	10.7	4.7%	64%
≡ 2016	4	10.1	5.1%	64%
2011	4	10.1	3.7%	92%
2006	4	10.1	3.6%	81%
2001	4	10.2	3.3%	89%
Moscow City, Russian Federation				
2021	4	10.7	3.9%	98%
2016	4	10.8	3.3%	97%
Abu Dhabi, UAE				
2021	4	10.4	2.7%	88%
2016	4	9.7	3.9%	96%
2011	4	9.7	2.7%	96%
Dubai, UAE				
² 2021	4	10.2	10.0%	92%
2016	4	9.9	3.2%	95%
2011	4	9.8	5.1%	94%

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